

# Andrew J. Burnham

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## Career Objectives

To gain knowledge of advanced vehicle technologies and transportation fuels in order to analyze their energy use and air pollutant and greenhouse gas emissions.

## Education

- **University of California, Davis** – M.S., Transportation Technology & Policy, 2004; **GPA:** 3.8
- **Northwestern University** – B.S., Environmental Engineering, 2002; **GPA:** 3.4

## Experience

**Predoctoral Researcher** – Argonne National Laboratory – Argonne, IL – 7/04 to present

- Collecting vehicle weight, vehicle component weight distribution, and material composition of vehicle components for several vehicle types of light and heavy duty vehicles for use in the GREET 2 model
- Helped visiting scholars from China learn about the GREET Model
- Updating the AirCred model that calculates the emission credits of alternative fueled vehicles as compared to a conventional models for use by fleet managers in Clean Cities

**Graduate Researcher** – Institute of Transportation Studies – Davis, CA – 4/03 to 7/04

- Examined coal gasification as part of a hydrogen production pathway
- Compiled the costs of hydrogen fueling stations
- Investigated hydrogen-enriched CNG buses as an option to meet the 2007 California Air Resources Board emission standards

**Intern** – Metal Technologies, Inc. – West Allis, WI – Summer 2002

- Documented emission factors for foundry processes at all Metal Technologies plants
- Created process flow and instrumentation diagrams for wastewater treatment facilities of two plants
- Assisted with completion of plant permits
- Created and maintained databases

**Engineering Assistant** – Department of Public Works – Milwaukee, WI – Summer 2001

- Supervised road construction crews
- Recorded and paid contractor's bid items
- Created and maintained databases

**Intern** – Milwaukee Metropolitan Sewerage District – Milwaukee, WI – Summer 2000

- Worked on GIS projects with MicroStation
- Created and maintained databases
- Worked on a survey crew

**Intern** – Southeastern Wisconsin Regional Planning Commission – Waukesha, WI – Summer 1999

- Delineating and coding watershed maps
- Aquatic plant surveys
- Creating and maintaining databases
- Ran simulations in flood control computer programs
- Planimeter work

**Computer Aide** – Civil Engineering Department, Northwestern University – Evanston, IL – 9/98 to 6/02

- Created and maintained databases
- Technical support
- Clerical work

## Interests

**Computer Skills** – AutoCAD, MicroStation, SPSS, Matlab, Visual Basic, Microsoft Office, EPA emission factor software, Dreamweaver, MOBILE6, GREET, AirCRED

**Activities** – Society of Hispanic Professional Engineers, Volunteer at Lutheran Home for the Aging, Graffiti Hotline, and Humane Haven Animal Shelter, Naperville's Bicycle and Pedestrian Advisory Committee

## Achievements

National Hispanic Scholar Recognition Program - Scholar Finalist, National Merit Commended Student, 97th percentile on ACT, Dean's List Northwestern University, 800 perfect score on GRE - Analytical, DOE-GATE Fellowship

## Publications

- Burnham, A., A. Burke, K. Collier, M. Forrest, Z. McCaffrey, and M. Miller. 2004. "Hydrogen Bus Technology Validation Program: Analysis and Update," Proceedings, Annual Meeting of the National Hydrogen Association, Los Angeles, CA.
- Sellmeyer, S., C. Saricks, and A. Burnham. 2005. "AirCRED 4.0 Programmer's Manual," Argonne National Laboratory Report ANL-05/25.
- Saricks, C., A. Burnham, and S. Sellmeyer. 2005. "AirCRED 4.0 User's Guide," Argonne National Laboratory Report ANL-05/24.
- Moon, P., A. Burnham, and M. Wang. 2006. "Vehicle-Cycle Energy and Emission Effects of Conventional and Advanced Vehicles," SAE Technical Paper No. 2006-01-0375.